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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,421

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Philippe Meyer

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER

LIN, KUANG Y

ART UNIT

PAPER NUMBER

1725

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/21/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/519,421	Applicant(s) MEYER ET AL.	
	Examiner Kuang Y. Lin	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The specification is again objected to under 35 USC 112, 1st paragraph in that in page 8, line 23, it recites the "arrows Fc". However, it is not clear what is referred to. Line 30, it recites "shoulder B". What material is used for making the same? Applicant is required to correct these and other errors which might occur throughout the specification.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 24-28 and 34-36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 24, it recites the step of "filling the mold cavity by gravity through said at least one risering core." However, there is no support in the specification originally filed for the claimed feature. Claims 34 and 36, respectively, they recite the step of "placing at least one liner in a predetermined position in a core box and then building the core". However, there is no support in the specification originally filed for the claimed feature.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shade.

Shade substantially shows the invention as claimed except that he does not disclose to feeding the mold by gravity. However, in col. 11, first few lines of Shade he states that the opening for molten metal may be located at parting line SL (see figure 4). The location is similar to the instant application (see figure 5). Thus, it is apparent that Shade also feeds the mold by gravity. With respect to the risering core, the admitted prior art (see figure 1 of the instant application) shows that feature to be conventional. Thus, it would have been obvious to provide risers of the admitted prior art in the core assembly of Shade to promote the directional solidification process. With respect to claim 25, JP 64-15,267 shows that feature to be conventional.

7. Claims 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shade as applied to claim 24 above, and further in view of Dolza et al.

Dolza shows a method for casting a cylinder block by first forming a core assembly comprising a plurality of segments of bulkhead cores 34, 36, 38 and 40. The number of bulkhead cores required depends on type of cylinder block, i.e. either 4-cylinder, 6-cylinder or 8-cylinder, is designated. The advantage of the process is in that one core box for making bulkhead core is required for casting different kind of cylinder blocks, i.e. either 4-cylinder, 6-cylinder or 8-cylinder. It would have been obvious to adapt the bulkhead core making process of Dolza in the process of Shade in view of the advantage.

8. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shade in view of Dolza et al. as applied to claim 29 above, and further in view of Helgesen et al.

Helgesen shows a casting process for incorporating liners to the cylinder block by first placing the liners in a core box and then form barrel cores for casting the cylinder block. The process of Helgesen has an advantage of accurately controlling the liner location. It would have been obvious to form the barrel cores of Shade with the process of Helgesen in view of the advantage.

9. Claims 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shade in view of Dolza et al. and Helgesen et al. as applied to claim 34 above, and further in view of Dakan, Sr. et al.

It would also have been obvious to incorporate the chill of Shade into the core assembly by first placing the chill in the core box during the core making process in view of Dakan, Sr. et al. to facilitate the core making process.

10. Applicant's arguments filed Feb. 6, 2007 have been fully considered but they are not persuasive.

a. In page 11, last paragraph of the amendment applicant stated that there is no suggestion that the filling would occur from the top of the mold. However, as shown in the figure 4 of Shade, the molten metal is filled through the location at the parting line SL, which is near the top of the mold. Further, in figure 5 of the instant application, the molten metal also fills the mold through a location near the top, rather than through the top, of the mold as the mold is tilted.

b. In page 12, first paragraph of the amendment applicant stated that Shade does not disclose or suggest any kind of risering system. However, the admitted prior art shows that it is conventional to provide risering cores at the top of the mold assembly.

c. In page 12, 3rd and 4th paragraphs of the amendment applicant stated that Shade uses an integral barrel/crankcase. However, Dolza et al. show that it is conventional to form a core assembly from a set of core segments each having a barrel, which will form a cylinder and a crankshaft bearing zone.

d. With respect to the argument for the limitation of claim 34 as appearing in page 13 of the amendment Helgesen et al. shows that feature to be conventional.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 571-272-1179. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Kuang Y. Lin
Primary Examiner
Art Unit 1725

2-16-07